

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

690 Walnut Ave.St. 150

Vallejo, CA 94592-1133

(707) 649-5453

(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026759**Date Inspected:** 23-Nov-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Bernie Docena**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 14E-PP126.7-E5 vent hole infill plate to top deck plate inside, ABF welder Rick Clayborn was observed continuing to perform 4G Shielded Metal Arc Welding (SMAW) back welding cover pass on the infill plate to top deck plate butt joint. The welder was noted using 1/8" diameter E7018H4R implementing Welding Procedure Specification (WPS) ABF-WPS-D15-1110A Rev.1 for the Seismic Performance Critical Member (SPCM) butt joint. Prior back welding, ABF QC Bernie Docena was observed performing Magnetic Particle Testing (MT) on the ground surface of the back gouging with positive result. During welding, ABF QC Bernie Docena was noted monitoring the welder's welding parameters with measured working current of 130 amperes on the 1/8" diameter E7018H4R electrode. The welder was noted preheating the plates to more than 150°F using propylene gas torch prior welding. During the shift, cover pass welding on the bottom side location of the butt joint was completed.

At OBG 14E-PP125-E3-#1 and #2 lifting lug hole infill plates to top deck plate inside, ABF welder Salvador Sandoval was observed continuing to perform 4G Shielded Metal Arc Welding (SMAW) back welding fill pass to cover pass on the infill plate to top deck plate butt joints. The welder was noted using 1/8" diameter E7018H4R implementing Welding Procedure Specification (WPS) ABF-WPS-D15-1110A Rev.1 for the Seismic Performance Critical Member (SPCM) butt joint. Prior back welding, ABF QC Bernie Docena was observed performing Magnetic Particle Testing (MT) on the ground surface of the back gouging with positive result. During welding, ABF QC Bernie Docena was noted monitoring the welder's welding parameters with measured working current of

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125 amperes on the 1/8" diameter E7018H4R electrode. The welder was noted preheating the plates to more than 150°F using propylene gas torch prior welding. During the shift, cover pass welding on the bottom side location of the two butt joints was completed and the welder has also flush ground the weld cover of the butt joints. ABF QC Bernie Docena has performed the initial VT after welding/flush grinding and found them acceptable. This QA also performed initial VT verification and noted same results.

At OBG 13E/14E bottom plate 'D2' outside, QA randomly observed ABF personnel Wai Kitlai continuing to perform plasma arc gouging on the backing bar removal of the non-SPCM splice butt joint. The welder was using an Esab plasma arc gouging machine that has the nozzle holder attached to a Bug-o track. Gouging of the backing bar was not completed today and should continue tomorrow. The welded bottom plate located at 'D1' of the same OBG was being flush ground.

QA randomly observed ABF/JV qualified welder James Zhen continuing to perform CJP groove back welding fill pass to cover pass on Orthotropic Box Girder (OBG) 13E/14E vertical plate 'I' outside. The welder was observed welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3110-3. The Seismic Performance Critical Member (SPCM) joint being welded has the backing bar gouged using the Esab Plasma Arc machine and was ground smooth. The gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was preheated to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System with the heater blankets located on top of the plate prior welding and maintained by moving the heater blanket at the side of the plate being welded during welding. The vicinity was properly protected from wind. During welding, ABF Quality Control (QC) Bernie Docena was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass welding was still continuing and should remain tomorrow. The welder has held the preheat of more than 200 degrees Fahrenheit for three (3) hours after welding as required.

This QA Inspector verbally informed QA SPCM Lead Inspector, Daniel Reyes, of the issues noted in this report for compliance therefore for further details of issues of significance see QA SPCM Lead Inspector, Daniel Reyes, Daily Inspection Report (6031) for this date.



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At OBG 13E/14E bottom plate 'D2' outside, ABF personnel were noted continuing to perform plasma arc gouging on the backing bar removal of the welded splice butt joint.



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At OBG 13E/14E plate 'I' outside, ABF welder Way Kitlai was observed performing 3G Flux Cored Arc Welding (FCAW-G) back welding fill pass on splice butt joint.



11-23-2011 0824 Hours Self Anchored Suspension Bridge

Summary of Conversations:

No significant conversation occurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer